Microsoft Exchange Server

Chapter 11
Analyzing the Migration Process

Deployment Guide

Abstract

This chapter examines the tasks from an actual migration project plan; these steps can then be used to analyze your own Exchange 5.5 to Exchange 2000 migration. After completing these procedures, you will have the necessary tools and information to evaluate your Exchange 2000 implementation. You will also have information on how to use Exchange 2000 forms to assess customer satisfaction and organize project feedback.

This is a preview edition of the Microsoft Exchange 2000 Server Upgrade Series. The final documentation will be available in November 2000.

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INTRODUCTION

How do you calculate the success of a major network project like e-mail system migration? Is it enough that e-mail is flowing and users are able to access their mailboxes? How about shared calendars or other e-mail system features? In short, is server access the sole measure of a successful e-mail system migration? Or does success include factors like the ability to manage the environment proactively, or new features that enhance your staff's productivity?

The true measure of success for any migration lies in the project team's ability to analyze the migration process, implement the new technologies, and provide concise feedback on return on investment (ROI), customer satisfaction, and lessons learned. This chapter will look at the tools and procedures you can use to analyze your Exchange 2000 migration.

When to Start the Analysis Process

If you like to read the last page of a mystery novel first, you will probably begin your Exchange 2000 migration by reading this chapter first—and that might not be a bad idea. From the moment you have your first planning meeting, the clock is ticking. Analysis is a continuing process, used to educate and reinforce, not a quick fix for justifying what you did with your last budget allocation.

Resource Requirements

Start your migration analysis on the right path by selecting an analysis team and creating a comprehensive analysis plan.

Analysis Team

Depending on who you ask, auditing can be a very unpopular term. For some it produces feelings of anxiety, associated with images of searching for documentation to justify their actions. For others, auditing is seen as a learning opportunity that provides the necessary closure for a successful process. Guess which outlook you want to develop for your analysis team?

It is not easy to objectively critique a project on which you've personally invested hundreds of hours and late nights. As a result, some companies use outside firms to provide objective, third-party audits of major projects (like e-mail migration).

Whether you use internal or contract personnel, be sure to plan a team large enough to complete your analysis in a timely fashion. A good rule of thumb is to have one analyst for every five project team leaders. By keeping your analysis team proportional to the project team, you will have adequate coverage for gathering and analyzing information.

Analysis team members should be technical professionals, familiar with networking and messaging terminology, having technical expertise similar to that of an Exchange administrator. Technical team requirements are covered in detail in Chapter 1, “Overview of the Deployment Process.”

Analysis Plan

Along with a technical team, you will need a plan that defines how you will perform the analysis process. The objective is to gain answers to the following questions:

- Did we clearly identify our goals?
- How well did we achieve the end results?
- What did we learn during the process?
- What are the “lessons learned” that we will share with others embarking on a similar project?

The analysis should closely follow the actual migration plan. By gathering and investigating data at each stage of the migration process, you will be able to identify causal relationships between events that trigger project triumphs and/or difficulties.

Design Considerations

Your migration analysis is directly proportional (in length and complexity) to your actual Exchange 2000 migration plan. To simplify the process, focus on specific objectives, like:

- ROI
- Lessons learned
- Customer satisfaction

These three items will provide all the direction and knowledge you need to justify and understand your Exchange 2000 migration.

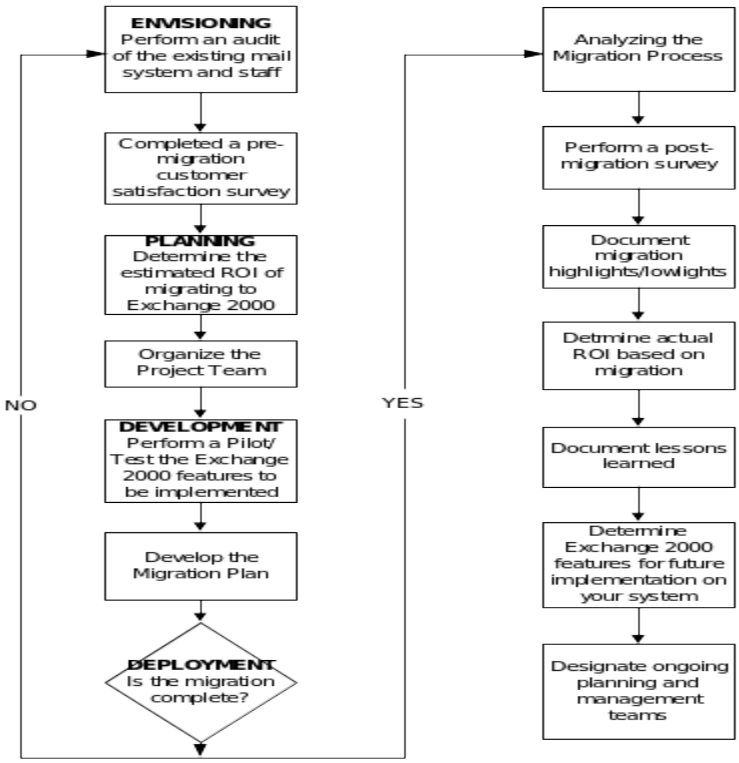
Chapter Sections

This chapter covers analysis of the following procedures:

- Pre-migration review
- Migration testing
- Migration plan
- Post-migration review

Before looking at these sections in detail, consider the migration process as conceived in the following flowchart:

PROCESS FLOW CHART
PREPARING FOR THE
ANALYSIS PROCESS


ENVISIONING
Perform an audit of the existing mail system and staff
Completed a pre-migration customer satisfaction survey
PLANNING
Determine the estimated ROI of migrating to Exchange 2000
Organize the Project Team
DEVELOPMENT
Perform a Pilot/ Test the Exchange 2000 features to be implemented
Develop the Migration Plan
DEPLOYMENT
Is the migration complete?
NO
YES
Analyzing the Migration Process
Perform a post-migration survey
Document migration highlights/lowlights
Detrmine actual ROI based on migration
Document lessons learned
Determine Exchange 2000 features for future implementation on your system
Designate ongoing planning and management teams

Get a copy of your Exchange 2000 migration plan, which you should have from the work that you did during the planning phase. If you are in dire straits because you have not created or formalized your procedures, here are some tips and tools you can use to build a migration plan.

What You Will Need

Project success depends on more than just good technology: People and process issues must be addressed as well. The Microsoft Solutions

PRE-MIGRATION REVIEW

Framework (MSF) is a collection of models, principles, and practices that help organizations frame business problems and effectively create and use technology to solve them. The project management techniques advocated in MSF are based on best practices from product developers, consultants, service providers, and customers worldwide.

For more information on what MSF is and how it can help organize your next project, see the MSF Datasheet:

http://www.microsoft.com/trainingandservices/content/downloads/datasheets/MSFDatasheet.doc

What You Should Know

The migration plan in this chapter was designed using the concepts introduced in the Microsoft Solutions Framework (MSF). Here is a listing of the project phases and definitions presented by MSF:

- **Envisioning** – Identify the project goal. Deliverables for this phase include the Project Scope document and Vision Statement.
- **Planning** – Develop functional specifications. During this phase the project plan is developed, including conceptual, logical and physical designs.
- **Development** – Create a test lab to examine how the proposed solutions work in the actual production environment. The deliverables for this phase include a migration plan and a list of tested features that will be deployed.
- **Deployment** – Implement the project. In this phase, you complete the milestones outlined during the development phase.

Now that you have developed your migration plan, the analysis process can begin.

As Laurence J. Peter once said, “If you don't know where you are going, you will probably end up somewhere else.” Your first order of business is to obtain metrics: customer satisfaction, functional requirements, project team, and pilot/testing data on the existing environment. The following checklists and guidelines can help you obtain the information, as well as provide tips to help you determine if you are on the right track.

Metrics

Component	Response/Date Recorded

Number of servers running Exchange	
Number of users on each server	
Size of private information store (Priv.edb) on each server	
Size of public information store (Pub.edb) on each server	
What services do these servers provide?	☐ Calendaring
	☐ Messaging
	☐ Internet Gateway
	☐ Other
Current mailbox size limits	
What domain suffix do you use for SMTP addresses (where the user's SMTP address is of the form *uid@domain-suffix*)?.	
How much bandwidth is available on your Internet connection?	
Daily messaging statistics (Internal and SMTP mail)	Avg. # inbound messages Avg. # outbound messages Avg. inbound message size in kilobytes (KB) Avg. outbound message size in KB
Describe the current procedures to backup and restore data contained in the electronic mail message store.	
What backup devices/software do you use?	
How long do you keep your backup data?	
What method of backup do you use for your message store (full, incremental, and so forth)?	
Describe disaster recovery procedures for	

your e-mail environment.	
Do you have off-site backups of data?	Yes ☐ No ☐
Do you have a plan to recover from a physical disaster (for example, fire or flood)?	Yes ☐ No ☐ If yes, Is it tested on an ongoing basis? Yes ☐ No ☐
Provide the speed and number of processors in each Exchange-based server.	
How much RAM is installed on each Exchange-based server?	
List the free hard drive space for each server.	
Are you using clustering? If so, list the hardware in use.	
List the operating system and service pack installed on each Exchange-based server?	
How many Exchange 4.0, 5.*x* sites exist in your environment?	
Attach a diagram of your wide area network (WAN). Detail the speed of the line between the locations, and if possible, the current usage level of those links.	

This is just a small sample of existing messaging system metrics. For a detailed list, see Job Aid 1 in the Planning section.

Analysis

Exchange 2000 saves time and money by providing an excellent server consolidation platform and lowering the total cost of ownership (TCO) of your messaging system. The only way you can analyze the true value of your Exchange 2000 implementation (and provide justification for a bonus or salary increase) is by comparing snapshots of your pre- and post-migration environments.

Customer Satisfaction

Maybe you would like to imagine that all your hard work will be so appreciated that co-workers will carry you through the halls on their shoulders and shower you with accolades. While this image may not be

completely realistic, there are ways you can get the credit you deserve. For example, don’t just enable the features that make your job easier: Allow your users to voice their opinions on the existing and planned e-mail systems.

Here is a brief list of questions to ask your current Exchange users:

- What email features/functions do you use the most?
- Are there any components of the system that you would like to replace?
- Are there features or functions that you would like to add to the system?
- On a 1-5 scale, where 1 is unreliable and 5 is very reliable, how would you rank our current email system?

Analysis

Collecting this data may seem like a daunting task, but remember that you don’t have to query every individual e-mail user. Organize your survey by asking department heads to query their employees during staff meetings or other planned gatherings. A Web–based form is another way to collect input.

A little listening goes a long way. The more in tune you are with your users’ requirements, the happier they will be with the new e-mail system.

Functional Requirements Ranking

The table below lists functional benefits of messaging that are important for determining the scope of the project. Use this information to gain an understanding of the organizational and project goals. While every document may not be required (due to your knowledge/familiarity with the environment), you should have a firm understanding and be able to cite examples for each.

Note the important requirements by indicating your priority on a 1-to-5 scale, where 1 is the least important and 5 is the most important. Ideal sources for this information include executives and IT staff.

Functional Requirement	Rank	Microsoft Exchange 2000 Feature	Notes
Reliability and reduced downtime		Central mail storage, server-based store, storage quotas, active/active clustering	
Directory synchronization		ADC, cc:Mail, Lotus Notes, Groupwise connectors	
Increased network efficiency		Active Directory integration	
Secure messaging		Advanced encryption/ authentication security through x.509v3 certificates	
Intelligent mail processing		Server-based rules; Synchronous Event Sink	
Real-time collaboration		Instant Messenger, chat	
Better troubleshooting		Message tracking	
Fault tolerance		Transaction roll-back and roll-forward	
Better routing		Least cost, fault-tolerant routing; Link-State algorithm	
Scalability		Storage groups, multiple databases	
Centralized administration		Microsoft Exchange System Manager MMC Snap-In	
Internet		SMTP server, front-end/	

connectivity		back-end servers	
X.400 connectivity		X.400 connector	
Conferencing		Voice, video and data conferencing by means of the T-120 protocol	
Client support		MAPI, IMAP4, POP3, SMTP, HTTP; Web Storage System	

Analysis

It is important to get detailed feedback on each of the features identified in the Functional Requirements Ranking chart. Your success with this project milestone can be determined by the amount of detail and documentation you obtain.

This information will be used during the development phase to identify the features to be included in the pilot and lab testing. The rankings from this section will determine which items are “show-stoppers” as opposed to “icing on the cake” for your migration.

Project Team

The following roles are important to the success of your Exchange 2000 migration. Identify the people in your organization who have each of these roles, where they are located, and what percentage of time each will devote to the role.

Role	Responsibility	Name(s)	Location	Availability
Architect	Overall responsibility of the technical design of the e-mail network			
Implementation	Physical implementation of components of the e-mail system			
System Analysis – Engineering	Ongoing Infrastructure analysis and improvement			
Testing	Insuring the conformance of the e-mail system to functional requirements and			

	Organization standards			
E-mail Champion	Responsible for setting objectives, managing external relationships, budget.			
Operations	Monitoring and support of the e-mail transport			
Technical Support	Hotline, and problem escalation tracking			
Development	Development of utilities for operations and installation groups			
User Training	Training of end users			
Help Desk Administrators	Technical support personnel			

Analysis

Depending on the size of your organization, one individual might have several roles. Use this chart as a conceptual guide to help you organize your staffing needs, and then plan accordingly.

Assign analysts to interview each project lead from the teams listed above for detailed migration and deployment feedback.

Pilot/Testing Development

The next step is to verify that you have the necessary resources to design, install, and support an Exchange 2000 implementation. This is the final step in the vision/scope phase of the migration planning process.

Developing a pilot/test environment requires compiling the data from the previous phases and using that information to assemble a working lab. Here is a checklist to use for building the pilot/test lab:

Component	**Response/Date Recorded**
Review current configuration documents and define a lab model.	
Select one or more lab locations.	

Determine lab space and environmental requirements.	
Design and document logical and physical configuration for the lab.	
Determine hardware requirements.	
Determine software requirements, including business applications and tools.	
Acquire hardware, including cables and software.	
Build and configure the network.	
Test network connectivity.	
Build and configure the servers.	
Install applications.	
Install testing and administrative tools.	
Document resources and tasks.	
Develop communications materials for user community (FAQs, Web site, e-mail newsletters, and so forth).	
Develop the user support plan.	
Develop the training plan.	
Document resources and tasks.	
Determine your migration roadmap.	
Determine supported upgrade paths.	
Examine your existing domain structure.	
Examine your Exchange site structure.	
Identify architecture modifications for Windows 2000/Exchange 2000.	
Configure the client computers.	

Install applications on the client computers.	
Test all the lab components.	
Define a change control process for the lab.	
Create, test, and document the lab restore process.	

Analysis

The success of the pilot/test lab phase is measured by the resulting deliverable: the project migration plan. Have you tested the features, giving precedence to those ranked highest by the customer satisfaction survey? Does the migration plan outline the process and timelines approved by the project team? Although not listed as part of the checklist, communications (with end users and the project team) is essential to the success of the migration plan.

Finally, the component crucial to pilot/test development is contingency planning. What secondary plans have you made in case of delays caused by hardware delivery/configuration or user vacations? Have you designed a plan that includes realistic, but flexible project milestone dates?

Once the migration plan is set, it is time to examine the actual deployment.

DEPLOYMENT REVIEW

Analysis of the pre-migration and pilot/test phase has prepared you for the grand finale—deploying Exchange 2000 in your environment. The features you have selected, along with user feedback and testing, has culminated in a deployment plan that will add real value to your e-mail system and your network. Here is an example of common deployment tasks:

Deployment Tasks	Date Performed
Communications	
Review communications strategy.	
Start communications.	
Education/training	
Review education/training strategy document.	
Conduct administrative training.	
Conduct user training.	
Phase-implement the Exchange 2000 architecture.	
Review migration strategy/standards.	
Restructure/build new architecture.	
Synchronize Active Directory with Exchange 5.5.	
Review ADC connection plan strategy.	
Set up connection agreements.	
Test connection agreement configurations.	
Determine a schedule for directory synchronization.	
Install/configure client(s).	

POST-MIGRATION SURVEY SUMMARY

Analysis

The first recommended deployment task items concern communications. The more your users know about the migration schedule and when to expect system unavailability, the easier the process will be for them and your project team. An excellent way to bring closure to this phase of the deployment is to identify lessons learned and best practices. Given the opportunity, what would you do differently? Was there a procedure discovered along the way that greatly contributed to the success of your project? Document this information for future use.

Lastly, once the migration is complete, repeat the user survey process discussed at the beginning of this chapter. By including questions on features such as Instant Messaging, chat, and conferencing server, you can gain vital insight into your users' needs.

Add the candid feedback you receive from your messaging community to your list of lessons learned and best practices. This survey is an excellent source of information for future messaging projects.

In this chapter, you learned how to create and analyze an Exchange 2000 migration plan. This chapter presented several checklists that you can use to build pre-migration surveys and pilot/test deployment plans. Further, the Microsoft Solutions Framework is a tool you can use to help organize your project team.

The next step in this process is to develop your plan using the checklists provided.

More Information

For more information on developing a migration plan using the Microsoft Solutions Framework, visit our Web site at http://www.microsoft.com/trainingandservices/default.asp?PageID=enterprise&PageCall=courses&SubSite=solutions

We have also included a sample Exchange 2000 Migration Plan (Microsoft Project 2000 format) on the Exchange 2000 Deployment Guide Reference CD.